

operate as required. BUSY indicates that one of the four circuits is either carrying traffic or connected to the MTAU. BUSY will be lit continuously when one of the circuits is provisioned for TO service.

CIRCUIT OPERATION

- 3.14 Loop-start idle condition is the ring lead negative with respect to tip on the CO side, while both tip and ring are open on the remote side.
- 3.15 When the calling telephone set goes off-hook, loop current is detected by the REUVG loop current detector. The detector output signal is encoded and passed to the CEUVG card via the Litespan system. The CEUVG senses the off-hook signal and operates the off-hook relay to close the loop and provide a path for loop current from the CO. The CO switch then sends dial tone. The REUVG is capable of recognizing dial pulses, which break the loop current at acceptable duty cycle rates, in the presence of induced power and transient noise.
- 3.16 Ground-start idle condition is tip open and ring at negative battery. The tip lead is opened on the remote side (toward the PBX) during the ground-start idle condition.
- 3.17 The PBX requests a line by grounding the ring lead at the RT. When this condition is sensed by the REUVG, Litespan signals the CEUVG unit, which operates the ring ground relay. The CO switch recognizes this as a service request.
- 3.18 When the CO has reserved a digit receiver, it busies out the circuit to prevent glare. It then sends dial tone and grounds the tip to signal the calling equipment to begin dialing out. The CEUVG senses tip ground and signals the REUVG to close the tip ground relay. This signals the PBX to remove its ring-to-ground connection and connect tip to ring to complete the loop.
- 3.19 The signaling detector on the CEUVG receives the 20-Hz ring signal AC voltage on the 2-wire interface to the central office switch, and signals the REUVG card. The REUVG channel unit then connects the ring generator output to the subscriber line. The Litespan reproduces the CO ringing cycle timing with an accuracy of ± 50 milliseconds.
- 3.20 When the subscriber line goes off-hook, the REUVG ring-trip detector signal is sent via the CEUVG to the CO switch, which disconnects ringing and establishes an audio path.
- 3.21 The forward-disconnect feature is used to disconnect a called-end telephone that has left the incoming call on hold, tying up that line. When the local switch times out, a disconnect signal is sent to the called-end COT. The loop current detector on the CEUVG channel unit detects this signal and relays it to the REUVG, which opens the loop to drop the call.
- 3.22 The RUVG or REUVG can be operated in PLAR mode such that when one end goes off-hook, the other end rings automatically. Ringing cadence is provisionable as cadence (2-sec. on, 4-sec. off) or continuous.
- 3.23 The REUVG can be cross-connected to a CEUVG, which would not provide sealing current.

4 PROVISIONING AND MAINTENANCE

- 4.01 TL1 is the native communication language of the Litespan. Access to the Litespan system is achieved with a direct connection using an ASCII terminal, dial-up connection via a modem, or X.25 packet network. Refer to the TL1 Reference Practice, OSP 363-205-502.

- 4.02 OMAPS is a user-friendly software interface that provides provisioning and maintenance access to the Litespan system. OMAPS is a program that runs on an IBM PC-AT¹ or equivalent computer. Refer to the OMAPS Reference Practice, OSP 363-205-501.
- 4.03 Equipment alarm and condition reporting attributes and service states are provisionable. Alarms are assigned notification codes of CR (Critical), MJ (Major), MR (Minor), or NR (Not Reported). Alarms are also coded as SA (Service-Affecting) or NSA (Non-Service-Affecting).
- 4.04 The channel unit's characteristics, or facility options, which can be provisioned in software, are described in the Channel Unit Provisioning Summary, OSP 363-005-300, and in the software references. Further application-specific information is given in the Narrowband Services Application Guide, OSP363-205-110.

5 SPECIFICATIONS

- 5.01 Single-ended and system end-to-end specifications are given in Table 5-1 and Table 5-2.

Table 5-1. Single-Ended Specifications

PARAMETER	MIN	TYP	MAX	UNIT	CONDITIONS
Loop length			2000	Ω	Including telset
Input impedance		900 600 600		Ω	900Ω + 2.16 μF Bal = 0, 600Ω + 2.16 μF Bal > 0, 600Ω
Lightning protection			1000	V	Peak, 10 μs x 1000 μs pulse
60-Hz loss	-20			dB	Reference to 1004 Hz
Return loss	19 11			dB	ERL SRL
Longitudinal balance					Per TR-057 Sec. 6.5
Frequency response	400		2800	Hz	+0.2/-1.5 dB, ref. 1004 Hz
Idle channel noise			15	dBmCO	Loops within CSA
Loop current detector detect not-detect	10k		2500	Ω	Tip-ring, or ring open with 900Ω tip-ground
Ring ground detector detect not-detect	10k		1800	Ω	Ring-ground in series w/ ≤ 8H
Temperature range	-40 -40		+65 +149	°C °F	
Humidity range	5		95	%	Noncondensing

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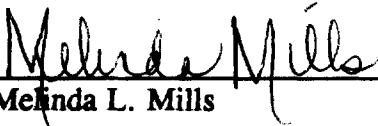
Table 5-2. System End-to-End Specifications*

PARAMETER	MIN	TYP	MAX	UNIT	CONDITIONS
Impulse noise			15	cts	15 min, 47 dBmC0, 20% active
Intermod. distortion	43 44			dB	2nd order, 13 dBm input 3rd order, 13 dBm input
Overload compression			0.5 1.8 4.5	dB	+3 input, 1 kHz ref. +6 +9
Single frequency distortion			-28 -40	dBm0	0 dBm, 0 to 12 kHz 0 dBm, 0 to 4 kHz
System generated tones			-50	dBm0	0 to 16 kHz
P/AR	90				-13 dBm0 input
Channel crosstalk (Cmsg)			-65	dBm0	0 dBm0, 200 to 3400 Hz
Frequency offset	-0.4		0.4	Hz	
On-hook transmission			5	dB	

* with Litespan CEUVG

CERTIFICATE OF SERVICE

I, Melinda L. Mills, hereby certify that I have on this 3rd day of October, 1997, served via U.S. First Class Mail, postage prepaid, or Hand Delivery, a copy of the foregoing "Joint Reply Comments of BellSouth Corporation, BellSouth Telecommunications, Inc., US WEST, Inc., and Sprint Local Telephone Companies to Further Notice of Proposed Rulemaking, Sections III.C.2" in the Matter of Federal State Joint Board on Universal Service, CC Docket No. 96-45 and Forward Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket No. 97-160, filed this date with the Acting Secretary, Federal Communications Commission, to the persons on the attached service list.


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